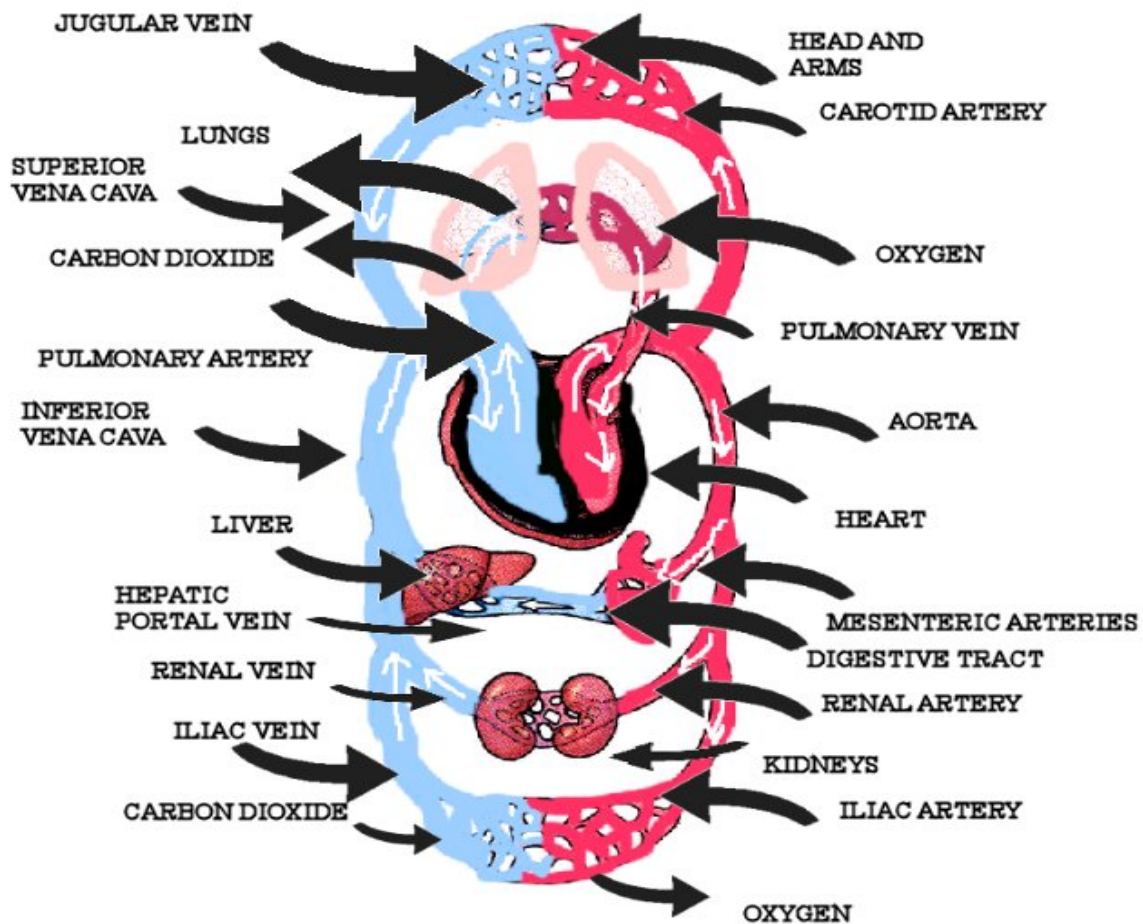


THE CIRCULATORY SYSTEM



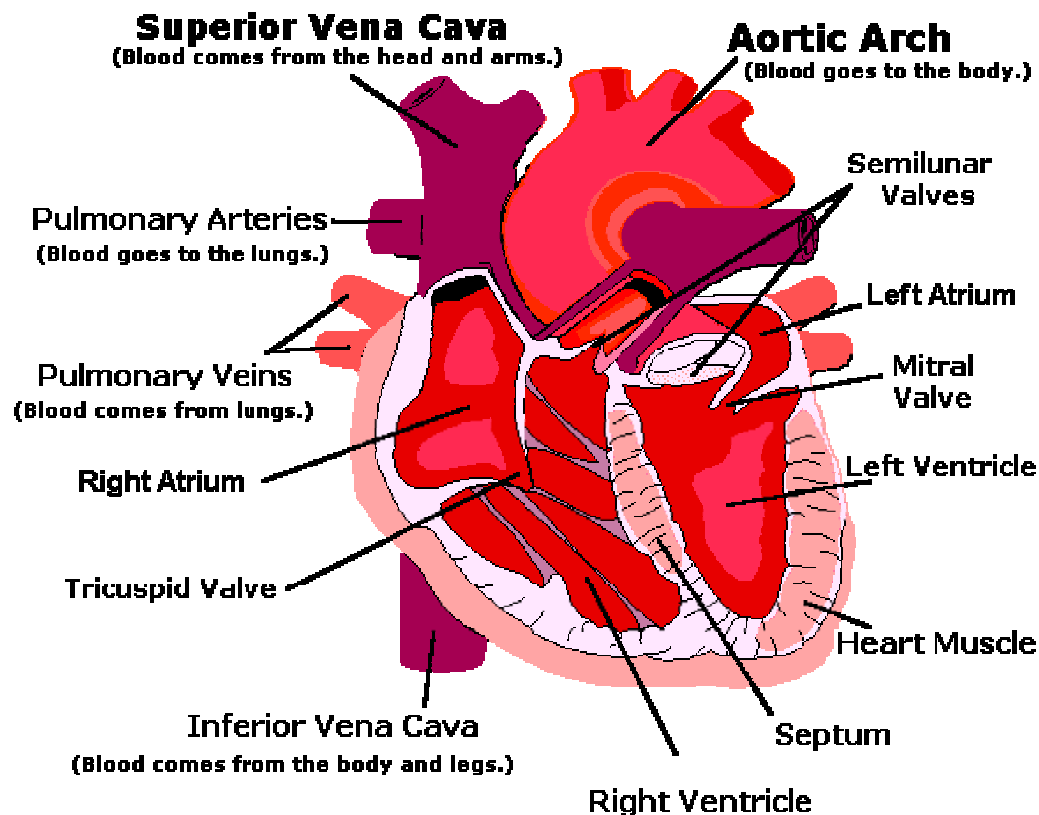
The **Circulatory System** is responsible for transporting materials throughout the entire body. It transports nutrients, water, and oxygen to your billions of body cells and carries away wastes such as carbon dioxide that body cells produce. It is an amazing highway that travels through your entire body connecting all your body cells.

Parts of the Circulatory System

The circulatory System is divided into three major parts:

1. The Heart
2. The Blood
3. The Blood Vessels

The Heart



The **Heart** is an amazing organ. The heart beats about 3 BILLION times during an average lifetime. It is a muscle about the size of your fist. The heart is located in the center of your chest slightly to the left. Its job is to pump your blood and keep the blood moving throughout your body.

It is your job to keep your heart healthy and there are three main things you need to remember in order to keep your heart healthy.

1. Exercise on a regular basis. Get outside and play. Keep that body moving (walk, jog, run, bike, skate, jump, swim).
2. Eat Healthy. Remember the Food Pyramid and make sure your eating your food from the bottom to top.
3. Don't Smoke! Don't Smoke! Don't Smoke! Don't Smoke! Don't Smoke!

The Blood

The blood is an amazing substance that is constantly flowing through our bodies.

- Your blood is pumped by your heart.
- Your blood travels through thousands of miles of blood vessels right within your own body.
- Your blood carries nutrients, water, oxygen and waste products to and from your body cells.
- A young person has about a gallon of blood. An adult has about 5 quarts.
- Your blood is not just a red liquid but rather is made up of liquids, solids and small amounts of oxygen and carbon dioxide.

Blood Cells

Red Blood Cells

Red Blood Cells are responsible for carrying oxygen and carbon dioxide. Red Blood Cells pick up oxygen in the lungs and transport it to all the body cells. After delivering the oxygen to the cells it gathers up the carbon dioxide(a waste gas produced as our cells are working) and transports carbon dioxide back to the lungs where it is removed from the body when we exhale(breath out). There are about **5,000,000** Red Blood Cells in ONE drop of blood.

White Blood Cells (Germinators)

White Blood Cells help the body fight off germs. White Blood Cells attack and destroy germs when they enter the body. When you have an infection your body will produce more White Blood Cells to help fight an infection. Sometimes our White Blood Cells need a little help and the Doctor will prescribe an antibiotic to help our White Blood Cells fight a large scale infection.

Platelets

Platelets are blood cells that help stop bleeding. When we cut ourselves we have broken a blood vessel and the blood leaks out. In order to plug up the holes where the blood is leaking from the platelets start to stick to the opening of the damaged blood vessels. As the platelets stick to the opening of the damaged vessel they attract more platelets, fibers and other blood cells to help form a plug to seal the

broken blood vessel. When the platelet plug is completely formed the wound stops bleeding. We call our platelet plugs scabs.

Plasma

Plasma is the liquid part of the blood. Approximately half of your blood is made of plasma. The plasma carries the blood cells and other components throughout the body. Plasma is made in the liver.

Where are the blood cells made?

The Red Blood Cells, White Blood Cells and Platelets are made by the bone marrow. Bone marrow is a soft tissue inside of our bones that produces blood cells.

The Blood Vessels

In class we talked about three types of **blood vessels**:

1. Arteries
2. Capillaries
3. Veins

Arteries

Arteries are blood vessels that carry oxygen rich blood AWAY from the heart. Remember, A A Arteries Away, A A Arteries Away, A A Arteries Away.

Capillaries

Capillaries are tiny blood vessels as thin or thinner than the hairs on your head. Capillaries connect arteries to veins. Food substances(nutrients), oxygen and wastes pass in and out of your blood through the capillary walls.

Veins

Veins carry blood back toward your heart.

AMAZING FACTS

- **One drop of blood** contains a half a drop of plasma, **5 MILLION** Red Blood Cells, **10 Thousand** White Blood Cells and **250 Thousand** Platelets.
- You have thousands of miles of blood vessels in your body. "Bill Nye the Science Guy" claims that you could **wrap your blood vessels around the equator TWICE!**
- Keep your heart healthy...it's going to have to beat about **3 BILLION times during your lifetime!**